

AMENDMENTS TO THE CLAIMS

1 4. (Currently Amended) An apparatus for ruggedizing and securing a touchpad assembly  
2 comprising:  
3 a touchpad having spaced-apart first and second surfaces, to receive a data signal from a user  
4 and to couple said signal to a cable;  
5 a printed circuit board assembly (PCBA) having spaced-apart first and second surfaces, said  
6 PCBA coupled to said cable to receive said data signal from said touchpad;  
7 a support lens having a first surface upon which said touchpad and said PCBA are disposed;  
8 a shield having spaced-apart first and second surfaces, said shield over-covering at least a  
9 portion of said touchpad, said cable, and said PCBA, and defining a through opening in said first surface  
10 overlying and permitting access to said touchpad; and  
11 ~~means a seal for securing coupling~~ said shield to said support and said cable ~~said PCBA~~ to  
12 enhance at least one of water-proofing and theft-vulnerability of said apparatus.

1 2. (Cancelled)

1 3. (Cancelled)

1 4. (Currently Amended) The apparatus of claim 1, wherein ~~said means for securing seal~~ includes at  
2 least one chamber seals to seal and define a security chamber space between portions of said shield,  
3 said PCBA, and said support lens.

1 5. (Currently Amended) The apparatus of claim 4, wherein said chamber seals include a plurality of  
2 first chamber seals disposed between the second surface of said shield and the first surface of said  
3 support lens, around a perimeter of said PCBA.

1 6. (Original) The apparatus of claim 5, wherein said first chamber seals comprise adhesive  
2 material.

1 7. (Original) The apparatus of claim 6, wherein said adhesive material comprises a gasket.

1 8. (Currently Amended) The apparatus of claim 5, wherein said chamber seals comprise a plurality  
2 of second chamber seals that lie between said second surface of said PCBA and said first surface of said  
3 support lens.

1 9. (Original) The apparatus of claim 8, wherein said second chamber seals comprise a double-  
2 sided adhesive material.

11 10. (Original) The apparatus of claim 8, wherein said adhesive material comprises a gasket.

12 11. (Original) The apparatus of claim 1, wherein said means for securing includes an anti-theft latch.

13 12. (Currently Amended) An apparatus for ruggedizing and securing a touchpad assembly  
2 comprising:

3 a touchpad having spaced-apart first and second surfaces, to receive a data signal from a user  
4 and to couple said signal to a cable;

5 a printed circuit board assembly (PCBA) having spaced-apart first and second surfaces, said  
6 PCBA coupled to said cable to receive said data signal from said touchpad;

7 a support having a first surface upon which said touchpad and said PCBA are disposed;

8 a shield having spaced-apart first and second surfaces, said shield over-covering said touchpad,  
9 said cable, and said PCBA, and defining a through opening in said first surface overlying and permitting  
10 access to said touchpad;

11 an anti-theft latch securing said shield to said PCBA to enhance at least one of water-proofing  
12 and theft-vulnerability of said apparatus~~The apparatus of claim 11~~, wherein said shield defines at least  
13 one injection port through which encapsulation resin is injectable into said security chamber space; and  
14 wherein said anti-theft latch is molded into said encapsulation resin such that upon setting and  
15 curing of said resin, said PCBA is not readily disassembled from said apparatus.

14 13. (Original) The apparatus of claim 12, wherein a set mount of said encapsulation resin is injected  
1 into said security chamber space.

14 14. (Currently Amended) An apparatus for ruggedizing and securing a touchpad assembly  
2 comprising:

3 a touchpad having spaced-apart first and second surfaces, to receive a data signal from a user  
4 and to couple said signal to a cable;

5 a printed circuit board assembly (PCBA) having spaced-apart first and second surfaces, said  
6 PCBA coupled to said cable to receive said data signal from said touchpad;

7 a support having a first surface upon which said touchpad and said PCBA are disposed;

8 a shield having spaced-apart first and second surfaces, said shield over-covering said touchpad,  
9 said cable, and said PCBA, and defining a through opening in said first surface overlying and permitting  
10 access to said touchpad;

11 an anti-theft latch securing said shield to said PCBA to enhance at least one of water-proofing  
12 and theft-vulnerability of said apparatus~~, The apparatus of claim 11~~, wherein said anti-theft latch  
13 comprises a spring.

1 15. (Currently Amended) An apparatus for ruggedizing and securing a touchpad assembly  
2 comprising:

3 a touchpad having spaced-apart first and second surfaces, to receive a data signal from a user  
4 and to couple said signal to a cable;

5 a printed circuit board assembly (PCBA) having spaced-apart first and second surfaces, said  
6 PCBA coupled to said cable to receive said data signal from said touchpad;

7 a support having a first surface upon which said touchpad and said PCBA are disposed;

8 a shield having spaced-apart first and second surfaces, said shield over-covering said touchpad,  
9 said cable, and said PCBA, and defining a through opening in said first surface overlying and permitting  
10 access to said touchpad;

11 an anti-theft latch securing said shield to said PCBA to enhance at least one of water-proofing  
12 and theft-vulnerability of said apparatus~~The apparatus of claim 11, wherein said anti-theft latch includes a~~  
13 metallic material.

1 3. 16. (Original) The apparatus of claim 14, wherein said spring comprises an upper portion, a central  
2 portion, and a lower portion, such that said upper portion is coupled to said second surface of said shield,  
3 said lower portion is coupled to said first surface of said PCBA, and said central portion extends from said  
4 upper portion and angles downward toward said lower portion.

1 15. 17. (Currently Amended) An apparatus for ruggedizing and securing a touchpad assembly  
2 comprising:

3 a touchpad having spaced-apart first and second surfaces, to receive a data signal from a user  
4 and to couple said signal to a cable;

5 a printed circuit board assembly (PCBA) having spaced-apart first and second surfaces, said  
6 PCBA coupled to said cable to receive said data signal from said touchpad;

7 a support having a first surface upon which said touchpad and said PCBA are disposed;

8 a shield having spaced-apart first and second surfaces, said shield over-covering said touchpad,  
9 said cable, and said PCBA, and defining a through opening in said first surface overlying and permitting  
10 access to said touchpad;

11 an anti-theft latch securing said shield to said PCBA to enhance at least one of water-proofing  
12 and theft-vulnerability of said apparatus~~The apparatus of claim 11, wherein a portion of said anti-theft~~  
13 latch is welded to said second surface of said shield.

1 16. 18. (Currently Amended) An apparatus for ruggedizing and securing a touchpad assembly  
2 comprising:

3 a touchpad having spaced-apart first and second surfaces, to receive a data signal from a user  
4 and to couple said signal to a cable;

5       a printed circuit board assembly (PCBA) having spaced-apart first and second surfaces, said  
6       PCBA coupled to said cable to receive said data signal from said touchpad;  
7       a support having a first surface upon which said touchpad and said PCBA are disposed;  
8       a shield having spaced-apart first and second surfaces, said shield over-covering said touchpad,  
9       said cable, and said PCBA, and defining a through opening in said first surface overlying and permitting  
10      access to said touchpad;  
11      an anti-theft latch securing said shield to said PCBA to enhance at least one of water-proofing  
12      and theft-vulnerability of said apparatus~~The apparatus of claim 11, wherein said anti-theft latch is~~  
13      electrically coupled to said PCBA.

*A*  
*17.*  
1       19. (Currently Amended) An apparatus for ruggedizing and securing a touchpad assembly  
2       comprising:  
3       a touchpad having spaced-apart first and second surfaces, to receive a data signal from a user  
4       and to couple said signal to a cable;  
5       a printed circuit board assembly (PCBA) having spaced-apart first and second surfaces, said  
6       PCBA coupled to said cable to receive said data signal from said touchpad;  
7       a support having a first surface upon which said touchpad and said PCBA are disposed;  
8       a shield having spaced-apart first and second surfaces, said shield over-covering said touchpad,  
9       said cable, and said PCBA, and defining a through opening in said first surface overlying and permitting  
10      access to said touchpad;  
11      an anti-theft latch securing said shield to said PCBA to enhance at least one of water-proofing  
12      and theft-vulnerability of said apparatus~~The apparatus of claim 11, wherein said anti-theft latch is~~  
13      electrically coupled to said PCBA with electrically conductive double-sided adhesive material.

*18.*  
1       20. (Original) The apparatus of claim 19, wherein said adhesive material comprises a gasket.  
*19.*  
1       21. (Original) The apparatus of claim 18, wherein said anti-theft latch is electrically coupled to a  
2       ground pad on said first surface of said PCBA.  
*20.*  
1       22. (Currently Amended) The apparatus of claim 1, further including a shock isolation mounting for  
2       said shield, disposed between said second surface of said shield and said first surface of the touchpad;  
3       wherein said shock isolation mounting helps retain said touchpad to said support lens.  
*21.*  
1       23. (Currently Amended) The apparatus of claim 1, wherein said support lens includes optical quality  
2       transparent material.  
*22.*  
1       24. (Currently Amended) An apparatus for ruggedizing and securing a touchpad assembly  
2       comprising:

3 a touchpad having spaced-apart first and second surfaces, to receive a data signal from a user  
4 and to couple said signal to a cable;

5 a printed circuit board assembly (PCBA) having spaced-apart first and second surfaces, said  
6 PCBA coupled to said cable to receive said data signal from said touchpad;

7 a support including ~~The apparatus of claim 23, wherein said support lens includes at least one of~~  
8 polycarbonate and glass, the support having a first surface upon which said touchpad and said PCBA are  
9 disposed;

10 a shield having spaced-apart first and second surfaces, said shield over-covering said touchpad,  
11 said cable, and said PCBA, and defining a through opening in said first surface overlying and permitting  
12 access to said touchpad; and

13 means for securing said shield to said PCBA to enhance at least one of water-proofing and theft-  
14 vulnerability of said apparatus.

1 23. (Original) The apparatus of claim 1, wherein said shield comprises a metallic material.

1 24. (Original) The apparatus of claim 1, wherein said cable is a flex cable.

1 25. (Currently Amended) A method of ruggedizing and securing a touchpad assembly, the method  
2 comprising the following steps:

3 supporting a touchpad and a printed circuit board assembly (PCBA) with a lens, such that the  
4 touchpad and PCBA lie on a first surface of the lens;

5 coupling a cable between the touchpad and the PCBA;

6 providing a shield having spaced-apart first and second surfaces to cover said touchpad, cable,  
7 and PCBA, said shield defining an opening sized to permit accessing said touchpad; and

8 providing coupling a seal between said shield and said lens, the seal in contact with said cable, to  
9 enhance at least one of water-proofing and theft-vulnerability of the assembly, at least one of a water-  
10 proofing enhancement mechanism and an anti-theft mechanism, to secure said shield to said PCBA.

1 26. (Currently Amended) The method of claim 27, wherein said shield is mounted to said support  
2 lens.

1 27. (Currently Amended) The method of claim 27, further including defining a sealed security  
2 chamber space between portions of said shield, said PCBA, and said support lens, and at least partially  
3 sealing said space with at least one said chamber seal.

1 28. (Currently Amended) The method of claim 29, further including sealing a second surface of said  
2 shield and a first surface of said support lens around a perimeter of said PCBA, at least in part using at

3 least one chamber said seal disposed between said second surface of said shield and said first surface of  
4 said support lens.

27

1 ~~29.~~ 31. (Currently Amended) The method of claim ~~29~~, further including sealing a second surface of the  
2 PCBA and a first surface of the support lens using at least one second chamber seal disposed between  
3 said second surface of said PCBA and said first surface of said support lens.

1 ~~30.~~ 32. (Currently Amended) A method of ruggedizing and securing a touchpad assembly, the method  
2 comprising:

3 supporting a touchpad and a printed circuit board assembly (PCBA) with a lens, such that the  
4 touchpad and PCBA lie on a first surface of the lens; coupling a cable between the touchpad and the  
5 PCBA;

6 providing a shield having spaced-apart first and second surfaces to cover said touchpad, cable,  
7 and PCBA, said shield defining an opening sized to permit accessing said touchpad;

8 providing at least one of a water-proofing enhancement mechanism and an anti-theft mechanism,  
9 to secure said shield to said PCBA; and~~The method of claim 27, further including~~

10 injecting encapsulation resin through an injection port, defined in said shield, into a security  
11 chamber space, such that said anti-theft latch is molded into said encapsulation resin and such that upon  
12 setting and curing of said resin, said PCBA cannot readily be disassembled.

1 ~~33.~~ 33. (Cancelled)

1 ~~34.~~ 34. (Currently Amended) A method of ruggedizing and securing a touchpad assembly, the method  
2 comprising the following steps:

3 supporting a touchpad and a printed circuit board assembly (PCBA) with a lens, such that the  
4 touchpad and PCBA lie on a first surface of the lens;

5 coupling a cable between the touchpad and the PCBA;

6 providing a shield having spaced-apart first and second surfaces to cover said touchpad, cable,  
7 and PCBA, said shield defining an opening sized to permit accessing said touchpad;

8 providing at least one of a water-proofing enhancement mechanism and an anti-theft mechanism,  
9 to secure said shield to said PCBA; and~~The method of claim 27, further including~~

10 welding a metallic spring to said shield and to said latch.

*32.*

1 ~~35.~~ (Currently Amended) A method of ruggedizing and securing a touchpad assembly, the method  
2 comprising the following steps:

3 supporting a touchpad and a printed circuit board assembly (PCBA) with a lens, such that the  
4 touchpad and PCBA lie on a first surface of the lens;

5 coupling a cable between the touchpad and the PCBA;

6 providing a shield having spaced-apart first and second surfaces to cover said touchpad, cable,  
7 and PCBA, said shield defining an opening sized to permit accessing said touchpad;

8 providing at least one of a water-proofing enhancement mechanism and an anti-theft mechanism,  
9 to secure said shield to said PCBA; and ~~The method of claim 27, further including~~

10 electrically coupling said anti-theft latch to said PCBA.

*33.*

1 ~~36.~~ (Original) The method of claim ~~35~~, wherein the step of securing further comprises electrically  
2 coupling the anti-theft latch to the PCBA by contact with a ground pad on the first surface of the PCBA.

*34.*

1 ~~37.~~ (Currently Amended) The method of claim ~~27~~, further including providing a shock isolation mount  
2 to retain said touchpad to said support-lens, said mount being disposed between a second surface of said  
3 shield and a first surface of said touchpad.

*38.*

1 ~~38.~~ (Withdrawn) A method for water sealing a cable opening of a touchpad assembly, the method  
2 comprising:

3 adding double-sided adhesive tape to a first surface of a support lens between a cable opening in the  
4 support lens and a touchpad;

5 attaching a cable to the touchpad, such that the cable lies on the double-sided tape as the cable  
6 runs from the touchpad through the opening, and such that the tape acts as a sealant under the cable;  
7 and

8 placing top adhesive tape over the double-sided tape, a portion of the cable, and the entire cable  
9 opening in the support lens in order to seal the overall cable opening.

1 39. (Withdrawn) The method of claim 38, wherein the step of adding tape includes providing a flex  
2 cable.

1 40. (Withdrawn) The method of claim 38, wherein the step of placing top adhesive tape includes  
2 using at least strip of tape.

1 41. (Withdrawn) The method of claim 38, wherein the step of placing top adhesive tape includes  
2 covering a length of said cable extending from said touchpad to said cable opening.

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42.

(New) An apparatus according to claim 1, wherein the support comprises a lens.

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